JPRS **69434** 15 July 1977

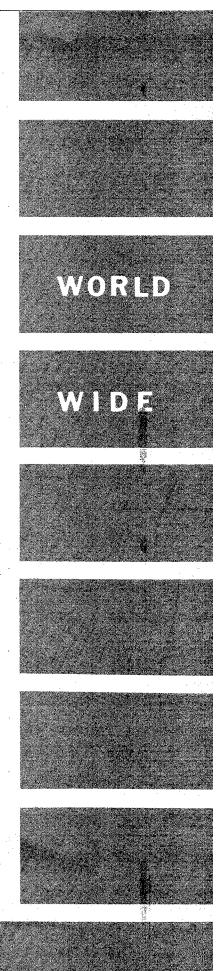
TRANSLATIONS ON TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT No. 7

DISTRIBUTION STATEMENT A Approved for Public Release Distribution Unlimited

20000405 016

U. S. JOINT PUBLICATIONS RESEARCH SERVICE

Reproduced From Best Available Copy



REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22151. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in <u>Government Reports Announcements</u> issued semi-monthly by the National Technical Information Service, and are listed in the <u>Monthly Catalog of U.S. Government Publications</u> issued by the <u>Superintendent of Documents</u>, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

SHEET 1. Report No. JPRS 69434	3. Recipient's Accession No.
4. Title and Subtitle	5. Report Date
TRANSLATIONS ON TELECOMMUNICATIONS POLICY, RES	SEARCH 15 July 1977
AND DEVELOPMENT, No. 7	6.
7. Author(s)	8. Performing Organization Rept.
'	No.
9. Performing Organization Name and Address Joint Publications Research Service	10. Project/Task/Work Unit No.
1000 North Glebe Road	11. Contract/Grant No.
Arlington, Virginia 22201	The Southacty State No.
12. Sponsoring Organization Name and Address	13. Type of Report & Period
	Covered
As above	
	14.
15. Supplementary Notes	
16. Abstracts	
	į.
This serial report contains translations from	the world press and radio relating
to worldwide political, economic and technical	developments in telecommunications
computers, and satellite communications. Cove	rage will be worldwide with focus
on France, rederal Republic of Germany. United	Kingdom, Italy Japan the HSSR
People's Republic of China, Sweden, and the Ne	therlands.
	·
17. Key Words and Document Analysis. 17a. Descriptors	
Worldwide	
Computers	1
Satellite Communications	
Electronics and Electrical Engineering	
Telecommunications	
Telemetry	
	·
17b. Identifiers/Open-Ended Terms	
Description open Ended Terms	
	·
	·
17c. COSATI Field/Group 09B, C, F, 17B, 22B	
18. Availability Statement	19. Security Class (This 21. No. of Pages
Unlimited Availability	Report) UNCLASSIFIED 54
Sold by NTIS Springfield, Virginia 22151	20. Security Class (This 22. Price
obrangraerd, Arrights 55131	Page DCA Ø 4

FORM NTIS-35 (REV. 3-72)

JPRS 69434 15 July 1977

TRANSLATIONS ON TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 7

CONTENTS			
INTERNATIONAL			
TASS Cites 'IZVESTIYA' on Arab-European News Agencies Conference (TASS, 27 Jun 77)	1		
Briefs Singapore-Philippine Cable	. 3		
ASIA			
INDIA			
Briefs New TV Complex	. 4		
INDONESIA			
Briefs Indonesian, Philippine Satellite	5		
JAPAN			
Briefs Cable TV English Casts	6		
MALAYSIA			
Briefs Japanese Technical Assistance to Malaysia	7		

CONTENTS (Con	tinued)	Page
NORTH KOREA		
TV Net	work Reaches 97 Percent of DPRK Households (KCNA, 28 Jun 77)	
SINGAPORE		
Briefs	Automatic Radiotelephone Network Singapore-Indonesia Submarine Cable Link	10
THAILAND		
Northe	ast Provinces To Have Overseas Microwave Link (NATION REVIEW, 12 Jun 77)	1.
	EASTERN EUROPE	
CZECHOSLOVAKI	A	
Briefs	Press Agency in Prague Czechoslovak, Algerian Radio, TV Protocol	12 12
	LATIN AMERICA	
BRAZIL		
Agreem	ent Signed With European Space Agency (JORNAL DO BRAZIL, 20 Jun 77)	13
	an Expert Advises Retention of Microwave unications (0 GLOBO, 12 Jun 77)	1.
m . 1 -		.L
Teleco	mmunications Activities Reported (0 GLOBO, 16, 20 May 77)	17
	New Policy for Telecommunications Sector Advocated	
	Technology Exchange With Italy To Be Discussed	

CONTENTS (Con	ntinued)	Page
CUBA		
Breif	s New International Telecommunications Enterprise	22
EL SALVADOR		
Brief	s Microwave Station Inaugurated	23
PERU		
Brief	Broadcasting by Microwave	24
	NEAR EAST AND AFRICA	
INTER-ARAB A	FFAIRS	
	ess in Setting Up Arab Artificial Satellite	
	(Ibrahim Ahmad 'Ubayd Interview; AL-RIYADH, 6 Jun 77)	25
ALGERIA		
Brief	New TV Broadcasting Station	30
KUWAIT		
Brief	Kuwait 'AXE' Order	. 31
LIBYA		
Brief	Libyan Broadcasting Station GDR Agreement With Libya Project Expansion	32 32 32
SAUDI ARABIA		
Micro	wave, Employment Decisions Announced (AL-MADINAH, 17 May 77)	33

CONTENTS (Continued)	Page
SUB SAHARAN AFRICA	
SENEGAL	
Telecommunications Projects Reported (BULLETIN DE L'AFRIQUE NOIRE, 15 Jun 77)	35
USSR	
Briefs TV Retransmitter in Khabarovsk Kray TASS-TAP Cooperation Protocol	37 37
WESTERN EUROPE	
FRANCE	
Nation's Telecommunications Burgeoning (Helene Pichenot; L'USINE NOUVELLE, 2 Jun 77)	38
Clare Company Consolidating Telecommunications Position (Jean Paul Amary; ELECTRONIQUE ACTUALITES, 27 May 77)	41
NORWAY	
Stands Taken on Satellite TV (AFTENPOSTEN, 23 May, 2 Jun 77)	44
Prime Ministers Position NRK Director's Position, by Torolf Elster	
TURKEY	
Briefs Earth Satellite Station	47

INTERNATIONAL

TASS CITES 'IZVESTIYA' ON ARAB-EUROPEAN NEWS AGENCIES CONFERENCE

Moscow TASS in English 1458 GMT 27 Jun 77 LD

[Text] Moscow, June 27 TASS--Today's IZVESTIYA carries an account of the second Arab-European Conference of the Directors of Information Agencies. It is said specifically that the conference discussed ways of increasing the flow of information and photo news, development of ties and telecommunications between the participating countries. It also discussed questions of assistance to Arab countries in training editorial personnel for news agencies.

Representatives of Western information services at the Istanbul meeting made persistent attempts to turn back to the old order in the field of information which perfectly suited their interests and to revise some of the basic decisions taken by the first Arab-European Conference of Information Agencies in Tunis in November last. But these attempts failed. After a protracted debate the Istanbul Conference approved a report reaffirming the basic principles adopted in Tunis in order to create a new order in the field of information and to strengthen the independence of the developing countries.

The Istanbul Conference stressed in its recommendations that European and Arab information agencies will respect the principle of objectivity in news reporting on each other's countries.

A special committee was set up, consisting of representatives of the CZECHOSLOVAK NEWS AGENCY, the AUSTRIAN PRESS AGENCY, the DPA and the information agencies of Libya, Jordan and Kuwait. The committee was instructed specifically to set dates and choose venues for the next two Arab-European Conferences of Information Agencies to be held in 1978 and 1979 and to make preparations for them.

The leader of the ANADOLU NEWS AGENCY was included as a consultative member of the committee from Turkey, the sponsor of the second Arab-European Conference.

Participants in the Istanbul meeting accepted in principle the invitation of the LIBYAN NEWS AGENCY OF THE ARAB REVOLUTION and the AUSTRIAN PRESS AGENCY to hold the next conference in Tripoli and Vienna.

INTERNATIONAL

BRIEFS

SINGAPORE-PHILIPPINE CABLE--STC [Standard Telephones and Cables], the British subsidiary of ITT [International Telephone and Telegraph], has just obtained a \$48-million contract for supplying a submarine telephone cable, 1,500 nautical miles long, connecting Currimao, in the Philippines, with Katong, in Singapore. This system, with a capacity of 1,380 telephone circuits, will be put in operation toward the middle of 1978. STC is responsible for designing, manufacturing and laying the whole system, which includes manufacture of the cable, some 230 repeaters and terminal equipment. The largest part of the order will be executed in STC's Submarine Systems Division plants, at Greenwich and Southampton. [Text] [Paris ELECTRONIQUE ACTUALITES in French 27 May 77 p 8] 10042

INDIA

BRIEFS

NEW TV COMPLEX--A TV complex will be commissioned at Jullundur by the middle of next year. It will produce mainly regional programs which will be relayed by Amritsar Durdarshan [television]. This was disclosed by the information and broadcasting minister, Mr Advani, during question time in the Lok Sabha 6 July. [Text] [Delhi Domestic Service in English 0830 GMT 6 Jul 77 BK]

INDONESIA

BRIEFS

INDONESIAN, PHILIPPINE SATELLITE—Jakarta July 3 (AFP)—Indonesian Communications Minister Emil Salim and his Philippine counterpart Alfredo Juinio have held exploratory talks on the openings of ferry links between Manado (Northern Celebes) and the Southern Philippines and the use of the Indonesian Satellite Palapa for Philippine telecommunications. The talks took place during Mr Juinio's visit to Jakarta Thursday and Friday. Mr Juinio attended the opening of the ASEAN Ports Sports Week in Tanjung Priok and also visited the Palapa control station at Cibinong, West Java. Mr Salim said the possibility of increasing the frequency of Jakarta—Manila flights from once to twice a week was also discussed. He said further talks would be necessary on the percentage of fare reductions for the planned ASEAN—circle trips. Indonesia would discuss with international telecommunications organizations its differences with Intelsat concerning the use of Palapa for regional telecommunications, Salim added. [Text] [Hong Kong AFP in English 0921 GMT 3 Jul 77 BK]

JAPAN

BRIEFS

CABLE TV ENGLISH CASTS--Tokyo, June 29 KYODO--Cable television carrying only English programs will make its debut next Monday in Tokyo's Shinjuka area in Japan's first such venture for general subscribers. Tokyo Cable Vision (TCV) will relay English programs of Japan Cable Television (JCTV)--now being supplied to hotels, apartment buildings for foreigners and foreign embassies in Tokyo--to about 1,800 general subscribers in Shinjuku. TCV plans to continue the broadcasts on Channel 2 free of subscription fees for 6 months on a trial basis preparatory to beginning permanent operations. The two stations will carry the same programs, featuring 2 hours of overseas and domestic news daily and three movies with original sound a week. The programs will be sponsored by airlines and other businesses. There will be broadcasts from 7 A.M. to 10 A.M. and from 6 P.M. to 1 A.M. daily. [Text] [Tokyo KYODO in English 0338 GMT 29 Jun 77 OW]

MALAYSIA

BRIEFS

JAPANESE TECHNICAL ASSISTANCE TO MALAYSIA--Japan is prepared to provide more technical assistance to help Malaysia in its social economic development, the director of the Technical Cooperation Division of the Japanese Foreign Affairs Ministry said in Kuala Lumpur on 27 June. He said the technical aid will be given in the field of telecommunications, forestry, maritime training, urban planning and economy. [Kuala Lumpur Domestic Service in English 1130 GMT 27 Jun 77 BK]

NORTH KOREA

TV NETWORK REACHES 97 PERCENT OF DPRK HOUSEHOLDS

Pyongyang KCNA in English 1611 GMT 28 Jun 77 OW

[Text] Pyongyang, June 28 (KCNA)—The television network has rapidly expanded in our country to reach 97 percent of the households, a high level in the world.

At the Fifth Congress of the Workers Party of Korea, it was decided to enable 90 percent of the households to see television by establishing the TV relay system during the six-year plan for the development of the national economy. Today this target has been surpassed by far.

The great leader Comrade Kim Il-song who is concerned to make all people lead a happy life, enjoying the benefits of modern civilization, set forth the original policy of broadening the television network throughout the country as one of the ways ro eliminate the distinctions in the living conditions between town and country, and wisely guided the work for its implementation. He did not spare funds but mobilized even planes to build relay towers, paying close attention to all problems, big and small, arrising in this work. Thus, modernly equipped TV broadcasting stations and TV broadcasting towers not inferior to those of foreign countries in height and output have been built in our country. And hundreds of relay stations have been set up on high mountains.

Our country has many steep mountains and deep valleys. But, unlike the TV broadcasting system of the capitalist countries where it has been expanded mainly in the urban area, our country has established the chuche-based broadcasting system to enable the people in the remote mountainous area and even dwellers on the islands far away from the capital to see television.

Our country has gone over from the black and white television to the color television whose system now covers 73 percent of all TV service area.

The number of TV sets increases year after year.

Our country has large-scale modern TV equipment production bases and electron tube: factories. The broadening of the television network throughout the

country is being successfully realized with our own powerful material and technical means.

Our country where the nationwide wire broadcasting system was established long ago will successfully be covered with the TV network.

BRIEFS

AUTOMATIC RADIOTELEPHONE NETWORK--The automatic radiotelephone network, supplied by Thomson-CSF [General Wireless Company] to the Singapore Telecommunications Administration, has just been placed in operation. This network is derived from the networks of Paris and of the large regional metropoles developed for the French PTT Administration. The Singapore network is a multipleaccess multichannel network, operating in the UHF band. It is provided with four transmitting/receiving centers with a power of 100 watts, connected to a telephone exchange consisting of a logical unit for management and control of communications. Starting today, close to 200 vehicles traveling all over the territory have access, through this system, to the national and international telephone network. The number of subscribers should increase rapidly and soon ships in the port zone of Singapore will also be able to be connected. system makes it possible to furnish subscribers with a very reliable and highperforming service and its modular construction makes future expansion extremely easy. [Text] [Paris ELECTRONIQUE ACTUALITES in French 27 May 77 p 8] 10042

SINGAPORE-INDONESIA SUBMARINE CABLE LINK--Singapore and Indonesia today signed a memorandum of understanding to build the \$20-million submarine cable linking the two countries. The signatories were the secretary of state for communications, Mr Ong Teng Cheong, and the Indonesian minister of communications, Dr Emil Sali. Mr Ong said the cable link will represent the second segment of the ASEAN submarine cable network. [Singapore Domestic Service in English 1132 GMT 29 Jun 77 BK]

CSO:	5500				_			
------	------	--	--	--	---	--	--	--

NORTHEAST PROVINCES TO HAVE OVERSEAS MICROWAVE LINK

Bangkok NATION REVIEW in English 12 Jun 77 p 2 BK

[Excerpt] Northeastern residents will, beginning in September of this year, be able to dial abroad directly through a microwave network following the completion of an 83-million-baht scheme.

This was disclosed yesterday by director of the Communications Authority of Thailand, Mr Chao Thongma, who said the project will also aim at improving the quality of the local telephone link with foreign countries.

The northeastern telecommunications link, with Amphoe Bang Lamung in Chonburi Province as the regional centre, will also have 80 to 100 telex exchanges to boost international communications.

"The northeast is a major commercial, industrial and tourist centre. Therefore, it is vital that we establish proper telephone connections," Mr Chao said.

Local telephone and telex contacts in the northeast "which at present are far from efficient" will also receive a major boost when telecommunications centres are set up in Nakhon Ratchasima and Khon Kaen to link up all the 16 provinces in that region.

CZECHOSLOVAKIA

BRIEFS

PRESS AGENCY IN PRAGUE—The "Orbis" Press Agency was set up in Prague today. Its task will be to inform the world public about socialist Czechoslovakia, about our people's standpoints on major events at home and abroad, and to promote strengthening of peace and friendship between peoples. The decision is to set up the Orbis Agency was taken by the Presidium of the Czechoslovak Society for International Relations, and Vladimir Vipler has been appointed its director general. [Text] [Prague Domestic Service in Czech 1430 GMT 1 Jul 77 LD]

CZECHOSLOVAK, ALGERIAN RADIO, TV PROTOCOL--Prague, June 27, CETEKA--A protocol on cooperation between Czechoslovak television and Algerian radio and television for 1977-1978 was signed here today by central director of Czechoslovak Television Jan Zelenka and RTA General Director Sheriet Rahman. [Text] [Prague CTK in English 1528 GMT 28 Jun 77 LD]

AGREEMENT SIGNED WITH EUROPEAN SPACE AGENCY

Rio de Janeiro JORNAL DO BRASIL in Portuguese 20 Jun 77 p 6

[Text] Brasilia -- The chief of the Armed Forces General Staff (EMFA), General Moacyr Potyguara, and the director-general of the European Space Agency, Mr Roy Gibson, will sign an agreement in the Foreign Ministry today for the installation and use of satellite tracking and telemetry facilities in Barreira do Inferno in Natal.

According to the chief of the Foreign Affairs Division of the European Space Agency, Mr Jean Arets, the agreement will permit France to utilize the Barreira do Inferno site to check its satellites launched from the Kourou base in French Guiana, while Brazil will have occasion to participate in international space operations, will have the right to keep the equipment, and will train its personnel in France.

Infrastructure

The European Space Agency will spend \$130 million (1.82 billion cruzeiros) on this project, known by the name of Ariane. Brazil, which is responsible for supplying the infrastructure, will spend about 6 million cruzeiros on the project, an appropriation that has already been released by the president of the republic.

Project Ariane, which has been under study since 1975, will provide for the transfer of space technology to Brazil, in addition to the right to keep the European equipment to be installed in Barreira do Inferno, and the training of Brazilian personnel in France.

The protocols of the agreement that is to be signed at 1230 today in the presence of the foreign minister establish conditions for the use of the equipment after the Ariane has been launched. The Ariane is a three-stage rocket that will place European telecommunications, terrestrial, scientific and meteorological research satellites into orbit at the end of 1979 and the beginning of 1980.

In order to train Brazilian technicians in the field of launcher technology, France has been receiving trainees for some time for the purpose of adapting them to the European equipment that eventually will belong to the Brazilian Government.

13

Cooperation

Speaking to JORNAL DO BRASIL, Mr Jean Arets, who came to Brasilia to coordinate the signing of the agreement, refrained from commenting on the present Brazilian policy of looking to Europe for technological and scientific know-how and the supply of military equipment to the detriment of its traditional supplier, the United States. In his view, the signing of the agreement with Brazil, the only Latin American country to have this type of contract with the European Space Agency, is related merely to the agency's interest in seeking cooperation with other nations outside the continent. In this connection, the possibility has already been broached regarding the possibility of the Europeans installing another base in Belem, if such an auxiliary base should prove to be technologically necessary.

The agency spends about \$500 million annually on its programs and will soon install another project in Australia.

After the signing of the agreement, the French technicians responsible for Ariane will speak about their programs to the Brazilian Space Activities Commission (Cobae), attached to the EMFA and the Brazilian representative agency in the space field.

The European Space Agency's board of directors is comprised of the representatives of 10 countries: France, Federal Germany, Belcium, Denmark, Spain, Italy, The Netherlands, the British Commonwealth, Sweden and Switzerland. In the specific case of project Ariane, France was delegated technical authority to head the negotiations through the National Space Studies Center (CNES). In the financial area, the French Government will defray 65 percent of the cost of the project.

BRAZIL

CANADIAN EXPERT ADVISES RETENTION OF MICROWAVE COMMUNICATIONS

Rio de Janeiro O GLOBO in Portuguese 12 Jun 77 p 11

[Text] Quebec, Canada -- Apparently it would be more economical for Brazil to expand its microwave system, even in the difficult Amazon region, than to adopt a domestic satellite system. Development of the existing traditional method also has the advantage of creating more jobs and consequently of helping the country's economy.

That is the opinion of engineer Marcel Desjardins, satellite specialist of the Ministry of Communications of Quebec Province, a department that carried out a broad study of the economic viability of the use of domestic communications satellites. Canada was the first country in the world to adopt that option, launching the "Anik" in 1972.

"The satellite option," he went on, "would be more advisable if Brazil did not have its present microwave network and was starting to install a national telecommunications system practically from zero. The use of satellites has a number of advantages from the technical viewpoint, with the installation of mobile receiving stations anywhere in the country in only 6 hours. But it is much more expensive, costing approximately \$200 million.

The Only Solution

Similarly, F.C. Devlin, operations manager of Telesat (the company that operates the Canadian satellite), when showing the O GLOBO special correspondent the operation of the control center in Ottawa, agreed that conventional methods are more economical but that they are impractical in the immense area of northern Canada, that is permanently covered with snow and has only a few, sparse settlements.

"Maintenance of microwave networks," he said, "would be impossible in the snow-covered regions and many thousands of kilometers would have to be covered to be able to take care of the small settlements and natural resource exploitation sites. That is why Canada was the first country in the world to adopt a domestic communications satellite system. This made it possible to unite the country, carrying the various telephone and color television services to the most remote regions.

Radio and TV

Television makes wide use of the satellite to reach the whole northern part of the country. While Intelsat (satellite for international use, including Brazil) requires large receiving station antennas, the "Anik" requires antennas of only 60 centimeters or 1 meter, facilitating transportation and installation of stations in hard-to-reach places. The range of each station varies according to the capability of its tower.

The Canadian Broadcasting Company (CBC) radio and television network has 44 television and six radio retransmission stations. It uses five satellite channels to broadcast the programs produced in Toronto (in English) and in Montreal (in French) to the different parts of the country. Since Canada is very large, with various time zones, the same program is not transmitted at the same time throughout the country as is the case in Brazil. The production centers broadcast to each region according to local time.

TELECOMMUNICATIONS ACTIVITIES REPORTED

New Policy for Telecommunications Sector Advocated

Rio de Janeiro O GLOBO in Portuguese 16 May 77 p 20

Text? Sao Paulo (0 GLOBO) -- The only correct solution for the problems of the sector will be a change in the orientation of the government, that is, a reconsideration of the reasons that led to the cuts this year and could also cause cuts in coming years. We are sure that the Minister of Communications and the Brazilian Telecommunications Corporations

Telebras? also consider the cuts imposed on them as being very large, and in addition to everything, unnecessary. The fact is well known that the Ministry of Communications, as well as the companies of the Telebras group, have possibilities of raising the necessary resources on the national or international financial market to maintain a minimum rate growth. The companies of the Telebras group are really self-sufficient in this matter and are independent as far as receiving funds from the Federal Government is concerned. Why then is not that type of thinking reconsidered, maintaining an acceptable rate of growth although inferior to original plans?

This question, asked by Siemens of Brazil, one of the principal suppliers of telephone and telecommunications equipment, reveals that the opinion of manufacturing companies of the sector did not change after the speech by Minister of Planning Reis Velloso Friday night in answer to the greetings from the president of the Brazilian Electro-Electronic Industry Association [Abinee], Manoel da Costa Santos. The manufacturers believe that the government did not touch on the crux of the problem and it seeks to ignore some questions such as the possibilities of unemployment. The Ericsson company, for example, says that it sent the Ministry of Labor, at its request, the changes in the level of employment in the companies:

a year ago there were 11,082 employees; in December 1976 there were 10,971 and on 30 April there were 9,835 employees. And it adds: 'We are reducing our orders in proportion to our manufacturing schedule and our great problem now in that field is to postpone or cancel part of the

Much Change

In addition to the Siemens suggestion on how the government could proceed, there are proposals from Ericsson do Brasil, perhaps one of the companies that will be most affected by reductions in investments because it began its expansion plan at the beginning of the decade of the seventies with completion forecast for 1982, when it will have an installed capacity of more than a million telephone lines. With the world oil crisis, difficulties in importing in 1975 and 1976, it decided to reduce its plans, and today its installed industrial capacity is plans for this year or the forecast of orders to be made, and the plans of all the companies involved can only be made after the government makes a determination.

At any rate, Ericcson believes that the funds retained by the National Telecommunications Fund should be released to the National Development Fund, thus allowing the integral application of the Telecommunications Fund to the telecommunications sector itself. The government should also invest in the sector to free telecommunications from the high financial costs of loans for the sector so that the value of orders can be used in effective investments. The government reduced investments in telecommunications but does not participate directly in these investments and it established the following appropriations.

In investments:

1976--15.84 billion cruzeiros

1977--20.6 billion cruzeiros.

Capital outlays

1976--3.33 billion cruzeiros

1977--5.24 million cruzeiros

The 30-percent increase in investments is nominal and for that reason there was a real decline due to inflation. "For the rest," declared the Ericsson Company, "perhaps the time has come for the government to study the number of manufacturers located in the country."

Painting a picture of the sector, Siemens "like other companies of the sector, shows concern because in addition to the general volume of orders having been reduced on the initiative of the Ministry of Communications and Telebras from 700,000 terminals per year, as was foreseen by the II National Development Plan, to 500,000 terminals per year, the new cuts imposed on the sector by the government appear to lead to a situation

where not even that reduced plan can be reached, at least not in 1977. Up to now no orders have been made and if the situation continues, there will be serious difficulties in maintaining a proper production planning, and therefore, an economic-financial balance that is sufficient for the operation of the companies."

Siemens prefers not to use the expression "frustration" with respect to this situation but it guarantees that "together with other firms of the sector we have alerted the authorities, about the national telecommunications system or about the situation of the manufacturing companies. Up to now there is no willingness on the part of the government to consider the resolution of the problem, taking into consideration the position of the industries as a variable. And thus we could be led to an even more difficult situation than the present one."

According to the Ericsson company, which details the consequences of nondiscrimination in orders and the decline in the volume of orders at the short and medium range for the concessionaires as well as for the industries of the sector, in the short range, the telephone companies will be forced to reschedule the contracts already signed in order to comply with their new financial programs and will have to postpone their contracting plans for coming years. In the medium range, it is expected that once more there will be overloading, noisy dialing malfunctions, interurban trunklines that are always busy, longer waits for telephone lines, and the return of the blackmarket in telephones. In the industry, there will be a decline in the industrial rate of growth which will result in increases in costs, dismissal of skilled personnel who were trained for long periods, financial difficulties due to a decline in a cash flow and subsequent indebtedness. In the medium range there will also be the need to train personnel again, when new orders come, with the accompanying costs. At the same time, the industry will be pressured once more to provide quicker service when we all know that to slow down is easy but to speed up requires more time and costs more money."

In the companies which manufacture telephone and telecommunications equipment, the period for manufacturing items is established at 2 years. Thus anything that is contracted for in one year will not be produced until the following year. Based on that premise, therefore, the Ericsson foresees orders of 70 percent of what had been originally forecast. Siemens goes even further and believes that orders will be made only at the end of the year and that due to the long cycles of planning and orders of parts for manufacture, it will be difficult to make a balanced scheduling for 1979 and that in the best of hypothesis this year will be very difficult.

Improve Prospects

The Siemens believes that there will only be good prospects for the

sector if there were to be a reconsideration of the drastic decisions made; Reductions, yes, but within a measure that does not compromise either the balance of the telephone system or the situation of the manufacturing companies. Brazil has a national telecommunications systems that despite having improved much in the past 10 years, does still not satisfy the needs of the country. It is important to understand that this has been with economic growth rates that are relatively high.

"Despite the slowdown that is imposed on the country, telecommunications must grow at least at a minimum rate in order to progress. To maintain the system at a very low rate of growth means we are drawing away even more from the desired telephone balance. In talking to the government we do not have difficulties in explaining our problems and we are always well treated. But what worries us is that while there is a dialog, it is not leading to any solution because it is not enough that the government understands our problems and says that it does. It is necessary that as a result of that understanding, corrective measures be taken. And up to now we have not seen this."

Technology Exchange With Italy To Be Discussed

Rio de Janeiro O GLOBO in Portuguese 20 May 77 p 27

/Text? Brasilia (O GLOBO) -- The president of the Societa Finanziaria Telefonica per Azioni, which controls the main interests of the sector of telecommunications in Italy, engineer Giorgio Villa, reported yesterday that the next meeting of the Brazil-Italy Association for Telecommunications Research and Industry will be held in Rio in November, when a policy by the two countries for the sector will be defined in specific terms. With respect to the problem of patents that may result from the agreement, he declared that they will be joint property of Brazil and Italy but that the patents already registered will continue to remain the property of the present holders.

Villa emphasized the importance of a rapprochement between the two countries and accepted the possibility that share control will remain with the Brazilian government. The project now underway began in 1975, when the first steps were taken during a visit by Ministers Azeredo da Silveira and Euclides Quandt de Oliveira to Italy. In April 1976, Italian Minister of Communications Giulio Orlando came to Brazil and defined the line of conduct of the Italian government with respect to the subject "in the aspect of exchanging information with Brazil instead of a pure and simple transfer of technology."

The president of the Societa Finanziaria Telefonica per Azioni said that his company proposed the nationalization of Auso Eletronica e Telecomunicacoes Ltda, an Italian company operating in Brazil to the Brazilian government.

He explained that the plans of Auso include a production three times greater than present production, but existing infrastructure allows assurance that "when the situation becomes normal, installed capacity will be adequate for needs."

He declared that 1,800 microwave channels will be delivered (ordered by Brazilian Telecommunications Company) by the end of 1978, and that the construction of 960 similar channels will be initiated to be concluded in 1979. He also said that his company has already placed a rural radiotelephone system in operation in Brazil.

8908

BRIEFS

NEW INTERNATIONAL TELECOMMUNICATIONS ENTERPRISE -- A new enterprise specializing in international telecommunications has been inaugurated by MINCOM [Ministry of Communications]. Identified by the acronym ENTELCUBA (International Telecommunications Enterprise of Cuba), it provides the country with longdistance telephone service to other countries through the National Telephone System and telegraphic messages (telegrams) to anywhere in the world. telegrams can be handed in at post office windows. In some places, this service is also available by telephone. ENTELCUBA also offers international telex service for organizations and enterprises and radiotelegraphic service to ships sailing at any latitude, facilitating the exchange of messages of all kinds, whether commercial or related to the operation of ships or private, for the benefit of crewmembers. The enterprise also provides every type of international communication, including the following: coastal telephone and telegraph service through the National Coastal System; press and radiophoto service for the country's media; telegraph, telex, and telephone lines leased for special use; and color television transmissions from any country for the ICRT [Cuban Radio and Television Institute]. To provide its various services, ENTELCUBA is linked by direct circuits to the following countries: Argentina, Bulgaria, Czechoslovakia, Colombia, Spain, the United States, France, Jamaica, Mexico, Poland, the GDR, the PRC, the USSR, Venezuela and, through them, to the rest of the world. One of the means used by the enterprise in providing its services is satellite transmission. For this purpose, it uses the Caribbean Ground Station, part of whose exterior can be seen in the photograph above [not included]. [Text] [Havana BOHEMIA in Spanish 6 May 77 p 21] 11798

EL SALVADOR

BRIEFS

MICROWAVE STATION INAUGURATED--San Julian, El Salvador, 24 Jun--President Arturo Armando Molina today inaugurated the country's first microwave station in San Julian, 60 km west of San Salvador. The station, built at a cost of more than \$10 million, will link El Salvador with the rest of the world by satellite. [Paris AFP in Spanish 0055 GMT 25 Jun 77 PA]

PERU

BRIEFS

BROADCASTING BY MICROWAVE--Lima, 3 Jul--Peru's National Broadcasting System will begin transmitting by microwave on 28 Jul, on Peru's national holiday, carrying President Gen Francisco Morales Bermudez speech. Max Arcadier, general manager of the National Broadcasting System (ENRAD-Peru), made the announcement to a local newspaper. He said this will put the nation's broadcasting system among the most modern in South America. It will also cover the entire nation in a network, Arcadier said. News bulletins will be the first programs carried by the state's radio network, he added. These bulletins, of approximately 3 hours [as received] duration, will be heard clearly throughout the country, Arcadier pointed out. He also said that Lima Domestic Service, the network's main station, will increase its power to 50 kw in October, thus increasing five times its present power and at the same time equaling that of Radio Union and Radio America. [Text] [Paris AFP in Spanish 1737 GMT 3 Jul 77 PA]

PROGRESS IN SETTING UP ARAB ARTIFICIAL SATELLITE DISCUSSED

Riyadh AL-RIYADH in Arabic 6 Jun 77 p 3

[Interview with Dr Ibrahim Ahmad 'Ubayd, Chairman of Arab Space Communications Organization's Board of Directors, by Mansur 'Ali Ahmad; "Steps Begun to Link Arab World Via Artificial Satellites; Riyadh Headquarters of First Arab Organization for Space Communications; Saudi Expert Heads Organization's Board of Directors; Three Artificial Satellites for Arab Space Network: Main Satellite, Reserve Satellite and Third Satellite Based on Land; Ground Transmission-Reception Stations in All Arab Countries"]

[Text] The issue of linking the Arab world via artificial satellites has become a reality after it seemed like an impossible dream. Riyadh will be the headquarters of the Arab Space Communications Organization and the kingdom has been elected chairman of this organization's board of directors. A meeting will be held in Alexandria next July to discuss the Arab Space Communications Organization's bylaws and regulations. The meeting will also discuss the Arab countries' nominations for the post of organization general director. Thus the agreement submitted by the kingdom contributed toward realizing the big dream of linking the Arab world via a network of artificial satellites.

The Arab space network will consist of two parts: the space sector part which comprises three artificial satellites—a main satellite, a reserve satellite and a third satellite based on land and ready to be launched should the need arise. The second part will consist of the ground artificial satellite [tracking] stations. These stations will be present in all the Arab countries and will be able to simultaneously receive and transmit via the artificial satellite.

This Arab space network will provide the circuits necessary for telephone, telex and cable communications and for picture transmission. Moreover, the network will supply the channels needed to meet television and radio transmission in the Arab countries in accordance with the regional requirements of 1980.

After the construction of this network, it will be easy for the Arab citizen to contact any part of the Arab world immediately and easily.

AL-RIYADH met with Dr Ibrahim Ahmad 'Ubayd, chairman of the Arab Space Communications Organization's Board of Directors, who gave it his first press interview on the organization's activity and on the time of the initiation of its work in the space communications field.

Project's Story

[Question] (I asked Dr Ibrahim 'Ubayd) When was thought first given to the Arab artificial satellite project and can you give us a short summary of the history of this project?

[Answer] (The chairman of the Arab Space Communications Organization said) The Federation of Arab Broadcasting Stations presented to the first executive conference of the Arab Telecommunications Federation, held in Cairo from 18 November to 2 December 1972, the Arab space communications network project for the purpose of exchanging television and radio programs between the Arab countries. The conference approved the idea which was then submitted to the Arab Telecommunications Federation in order to hold an emergency meeting for its members to make a decision on the issue no later than December 1973. Unfortunately, this emergency meeting was never held and the issue was again referred to the second executive conference which was held in Alexandria from 18 to 31 August 1973. It was decided at this conference that a special advisory committee would study the issue and determine the number of cable circuits needed by the various Arab countries between the years 1975 and 1980, taking into consideration the use of an artificial satellite to insure these communications. ence also decided to address an invitation to the Arab Broadcasting Stations Federation to conduct a similar study, provided that the two sides meet in the form of a joint technical committee in the first week of February 1974. The special committee did not meet on schedule. However, it met in Beirut from 16 to 26 April and its meetings were interspersed by joint work sessions with the similar committee from the Broadcasting Stations Federation to discuss the requirements of the Arab Broadcasting Stations Federation in case the artificial satellite project is approved. This meeting also decided to form an advisory committee to prepare the final report and to submit it to the conference of commissioned delegates which was held in Tunis in 1974. This advisory committee met in Lebanon on 16 September 1974 and concluded its work by recommending the adoption of the idea of setting up an Arab artificial satellite. The Tunis meeting was held from 21 November to 7 December 1974.

Kingdom's Agreement

Because of the many items included in the agenda of the Tunis meeting, a committee was formed to study the agreement submitted by the Saudi Arab Organization [not further specified] and to present the results of its

study to a special executive conference convened for this purpose in Kuwait. This conference was held in Kuwait on 17 May 1975 and the draft agreement was discussed at this conference. It was agreed to present the final form of the agreement to the Arab communication ministers' meeting to ratify it. All this shows that great efforts were exerted. However, the Arab communications ministers conference was later held in Cairo and the main agreement was ratified. The kingdom was represented at the meeting by Dr 'Alawi Darwish Kayyal. At this point, the dream of linking the Arab world via artificial satellites began to turn into a reality. The agreement stipulates that the organization's headquarters and the control stations will be located in the kingdom.

Executive Steps

[Question] What are the practical steps taken since the agreement was signed to realize this dear wish of the Arabs to have their own artificial satellite?

[Answer] The organization's Board of Directors held a meeting and I was unanimously elected its chairman. The Board of Directors was formed with the following as members: Kuwait, Egypt, Iraq, Libya, Jordan, Tunisia and the United Arab Emirates. At the meeting, the board also approved the formation of two committees, one technical and the other administrative. The kingdom has had the honor of forming two committees [sic], one a technical committee to make preparations for concluding a contract with an expert establishment to draw up the project's plans and specifications and to supervise implementation and an administrativefinancial committee to prepare the organization's bylaws and regulations. The two committees met in Cairo on schedule and the results of their studies were submitted to the second meeting of the Board of Directors which was held in Riyadh last month when the suitable formula for inviting tenders from the expert companies was approved. In fact, this tender was advertised in local and international newspapers and we began to hand out the invitation [tend forms] as of 1 May 1977. We expect the expert companies to submit their offers by 1 August [1977]. The administrativefinancial committee has completed its approval of the qualifications that should be possessed by the organization's general director. qualifications have been transmitted to all the Arab countries which have been given a period of two months, beginning on 1 May 1977, to submit their nominations for the position.

A Meeting in July

[Question] When will the next meeting of the Board of Directors be held?

[Answer] It will be held in Alexandria on 9 July [1977]. At this meeting, the remaining bylaws and regulations of the organization and the nominations by the Arab countries to the post of general director will be discussed.

[Question] What will the Arab Space Communications Organization offer the Arab world?

[Answer] The Arab space network will supply the necessary circuits for telephone, telex and cable communications and picture transmission, in addition to channels for television and radio transmission in the Arab countries in accordance with the regional requirements of 1980. It will also take into consideration the reserve capacity needed for the expected increase in communication traffic in the period from 1980 to 1990. Moreover, the Arab space network will also meet some regional requirements for television communication or television transmission within a certain country. After the completion of this network, we expect that it will be easy for any Arab citizen to contact immediately a fellow Arab citizen in any part of the greater Arab homeland.

Three Artificial Satellites

[Question] Can you give the esteemed readers a brief idea about the technical composition of the Arab space network?

[Answer] The network will consist of two parts: the so-called space sector which will consist of three artificial satellites—a main and a reserve space satellite. The reserve satellite can be used by some Arab countries and all traffic will be transferred to this reserve satellite should anything go wrong with the main satellite. The third satellite will be based on land and will be ready to be launched into outer space should the need arise. There will also be a control station in the kingdom and this station will be the brain operating this network and will keep up with the network's operations in any part of the Arab homeland. The second part of the network consists of the ground satellite [tracking] stations. These stations will be built in all the Arab countries and they will be able to receive and transmit simultaneously. The countries that will use both the main and the reserve satellites will need more than one station.

[Question] There is no doubt that this great work is a source of pride for all the Arabs. What is Your Excellency's opinion of the effects of this network on the future.

Links From Gulf to Ocean

[Answer] There is no doubt that the network will strengthen the ever-lasting and firm relations among the Arab countries from the gulf to the ocean and will help the exchange of cultural and religious programs among these countries. The network will also facilitate direct telephone, telex and cable communications among these countries. This will naturally strengthen the ties of religion and language. The network's main objectives also include education via television for remote parts of the Arab world and provide for helping in the total elimination of illiteracy and in spreading all phases of education, beginning with the elementary and

ending with the university levels of education, so as to enable every Arab to keep in constant contact with the latest accomplishments of mankind in the fields of science and technology. This will undoubtedly enhance the position of the Arab and Islamic nation, will strengthen the Arab and Moslem youths and will bind their hearts together. It is a source of pride that the capital of the Kingdom of Saudi Arabia is chosen to be the headquarters of this organization and of its control station. The government of His Majesty King Khalid, the imam of the Moslems and the pioneer of Islamic solidarity and justice, may God protect him, and of his loyal crown prince, His Highness Prince Fahd, may God protect him, has donated a piece of land for the organization's headquarters to be built on.

I know for certain that His Majesty King Khalid and His Highness Crown Prince Fahd give their personal attention to this organization and follow its work step by step.

[Question] When do you expect this organization to start actual work?

[Answer] In the next meeting in Alexandria, we will approve, God willing, the organization's bylaws and regulations and will also decide on the question of the nominations of the Arab countries for the post of the organization's general director. Afterwards, the organization's general assembly, comprising the Arab ministers of communications, will meet to ratify these bylaws and regulations. We have actually begun the formation of a nucleus of the administrative and technical agency. We are looking for a temporary headquarters and we are exerting utmost efforts to speed up the organization's work. As we have already stated, the specifications for choosing the advisory body have been ready since 1 May 1977. This will be followed, God willing, by offers from the expert companies in August. We have contacted some international organizations, such as the International Telecommunications Federation and (NASA), which is in charge of launching missiles, and others to begin making the necessary arrangements. The Arab artificial satellite will be a reality before long and it will be of service to all the Arabs and Moslems.

(In conclusion, Dr 'Ubayd said) The success of the Arab Space Communications Organization will create political and social dimensions of significance to the entire Arab world.

The big dream will become a reality before long and the Arab artificial satellite will become one of the most important factors linking together this great and deep-rooted nation.

8494

ALGERIA

BRIEFS

NEW TV BROADCASTING STATION -- En route from Algiers, Minister of Information and Culture Redha Malek and Minister of Posts and Telecommunications Mohamed Zerguini arrived yesterday in Bechar, where they were greeted as they stepped off the plane by the civilian and military authorities of the governorate. Accompanied by their close associates, the two ministers went immediately upon their arrival to Beni Abbes (seat of the district and located 250 kilometers from Bechar), where they officially dedicated the land-based satellite telecommunications station and the RTA [Algerian Radio and Television transmitter. This visit is endowed with exceptional significance for the residents of Beni Abbes, who had been waiting somewhat impatiently for this installation to be placed in service, inasmuch as it will enable them to receive the television broadcasts as well as viewers in the northern part of the country and thereby escape from the extreme isolation that had characterized life in this district. The local population has therefore welcomed this achievement with extreme pleasure. Lastly, we should mention that Redha Malek and Zerguini visited the post office, the radio liaison center, and the construction site of a CEM [College of Intermediate Studies] that will accommodate an enrollment of $8\overline{00}$. The ministerial party was scheduled to return to Bechar at the end of the afternoon. [Text] [Algiers EL MOUDJAHID in French 29 May 77 p 1] 10,992

KUWAIT

BRIEFS

KUWAIT 'AXE' ORDER--Kuwait has just awarded LM Ericsson a \$7-million (35 million francs) contract for supplying three AXE-type electronic exchanges. The version selected by Kuwait is the one with a time connection network. Deliveries of this equipment will take place in the next 2 years. Kuwait is the fifth country to adopt AXE, after France, Finland, Sweden and Yugoslavia. According to the Swedish company, choice of this exchange was preceded by a thorough evaluation of all the electronic switching systems proposed by the world's largest producers. [Text] [Paris ELECTRONIQUE ACTUALITES in French 27 May 77 p 8] 10042

BRIEFS

LIBYAN BROADCASTING STATION--Belgrade, 1 July (TANJUG)--The Zagreb Transmitter Plant, operating as an intregal part of the Zagreb Radio Industry "Riz", and its general representative "Invest-Import" from Belgrade have concluded an agreement with Libyan Secretariat for Culture and Information on constructing and completely equiping a broadcasting station in Libya totalling 67 million dollars. This project will be constructed in Juara. Under this agreement the Yugoslav organizations will complete this project and put it into operation. This is the most important undertaking so far in the successful cooperation over the years with Libyan partners. Otherwise, "Invest-Import" and "Riz" have so far constructed and equipped radio stations in Sheba, Bayda, Benghazi and Tripoli, totalling some 30 million dollars. [Text] [Belgrade TANJUG in English 0915 GMY 1 Jul 77 LD]

GDR AGREEMENT WITH LIBYA--Tripoli--An agreement was signed in Tripoli on Wednesday between the GDR State Committees for Broadcasting and Television and the State Organization for Radio and Television of the Libyan Arab Socialist People's Jamahiriyah with regard to cooperation in this field. [Text] [East Berlin ADN International Service in German 1407 GMT 29 Jun 77 LD]

PROJECT EXPANSION--The General Organization for Post and Telecommunications has signed an agreement with the Japanese Neon Electric Company to expand the centimeter wave project at a cost of 6,166,626 Libyan dinars. The expansion contract includes the addition of two relays, each of whose capacity is 960 telephone and telegraph channels, in addition to a channel for transmitting visual and audio programs to different areas. It also includes a new telephone and telegraph relay in addition to a channel for audio and visual broadcasting to cover the areas of Maradah and Marsa al-Burayqah. It was agreed that the period for supply and construction would be 18 months from the signing of the contract. [Text] [Tripoli AL-JIHAD in Arabic 10 Jun 77 p 1]

SAUDI ARABIA

MICROWAVE, EMPLOYMENT DECISIONS ANNOUNCED

Jiddah AL-MADINAH in Arabic 17 May 77 p 1

[Article: "Approval of Microwave Project at a Cost of More Than 1,500 Million; Decisive Resolution of Problem of Employees Breaking Contract With Firms; Council of Ministers Meeting Chaired by Prince Fahd"]

[Text] Riyadh, SAUDI NEWS AGENCY. The Council of Ministers held a meeting at 1900 yesterday evening, and was chaired by His Royal Highness Prince Fahd ibn 'Abd-al-'Aziz, crown prince and deputy prime minister. The meeting ended at 2140.

After the session, Dr Muhammad 'Abduh Yamani, the minister of information, stated that the council had listened at the start of the session to a report by the minister for post and telegraph regarding the microwave project for television and telephone and telegraph communications in the kingdom. The council approved the immediate implementation of the project by an American consortium represented by the Electric Company, at a cost of 1,536,179,000 riyals.

The Council of Ministers also listened to a report by the minister of higher education on the project for the fourth stage of the university complex for the petroleum and mining university, which was approved. The project covers the research institute building, computerized data programming center, student housing, a gymnasium, chemical warehouses, and a residence for assistant instructors.

In his statement to the SAUDI NEWS AGENCY, the minister of information said that the council also listened to a report by the minister of trade regarding complaints he had received from certain companies and firms which were suffering considerable losses as a result of the actions of some personnel who are brought in from abroad under contract to work for these companies and firms, but who leave or go to work for other firms, after their original sponsor had paid the cost of their transportation and training or the job in the kingdom.

The council decreed in this regard that no party would be permitted to employ any person who is brought into the country by another company or firm until at least 3 years after completion of the contract with the original party.

Dr Muhammad 'Abduh Yamani added that the council discussed a group of employee promotions, and approved the request of the minister for municipal and village affairs to appoint Professor Ibrahim al-'Abd al-Rahman al-Mudaymigh as deputy assistant mayor of Riyadh for administrative affairs. Dr Yamani stated that the resolutions adopted by the council have been submitted to his majesty for approval.

8340

TELECOMMUNICATIONS PROJECTS REPORTED

Paris BULLETIN DE L'AFRIQUE NOIRE in French 15 Jun 77 pp 17907-17908

 \sqrt{T} ext7 National telecommunications systems are to be improved in the following ways:

- a. The Dakar-north axis project (installation of central exchanges at Saint-Louis, Louga, Matam, Podor, Dagana, Kebemer, and Richard Toll by May 1978; Thies-Richard Toll-Bakel radio systems by September 1978; Thies-Saint Louis, Louga, Linguere TLB / expansion unknown lines in April 1979).
- b. The construction of Medina III in Dakar for January 1979.
- c. Dakar-Thies and Dakar-Goree radio links.
- d. The connection of Thiaroye-Pikine and the vicinity of the free zone by 1979.
- e. The Thies-M'Bour link which will be completed in July, along with the Medina-Yoff link.

Work on the PANAFTEL network is now in progress. Outside of the Kaolack-Banjul radio link opened last February, the Ziguinchor-Bissau and Richard Toll-Rosso links are scheduled for completion at the end of 1977 and in 1979, respectively.

Work on the Kaolack-Bohicon artery will begin during the second quarter of 1973 /sic/ using a Canadian loan. It has been decided to construct the Tambacounda-Mali artery.

National telecommunications projects scheduled during the Fifth Plan are primarily:

- a. The installation of 23 automatic central exchanges at Tambacounda, Kedougou, Bakel, M'Bour, Joal, Popenguine, Tivaouane, M'Boro, Fatick, Nioro du Rip, Kaffrine, Birkelane, Koungheul, Foundiougne, Sokone, M'Backe, Touba, Daroumousti, Sedhiou, Kolda, Velingara, Bignona, and Cap Skirring.
- b. The construction of the following communications links: Thies-Bambey-Diourbel; Bambey-Diourbel; Ziguinchor-Bignona; Ziguinchor-Oussouye; Ziguinchor-Sedhiou-Kolda-Velingara; Kaolack-Kaffrine; Kaolack-Foundiougne; Foundiougne-Saloum islands; Bakel-Kidira.
- c. Ferlo will become less isolated through the use of these air lines: Linguere-Koungheul; Linguere-Renerou-Matam; and Renerou-Tambacounda.
- d. The installation of telex central exchanges at Thies, Saint-Louis, and Dakar.
- e. A new central exchange will begin operating in Dakar at Ponty (10,000 lines) by early 1981 at the latest; it may possibly be financed with an IBRD loan.

The following developments were recently made in international telecommunications:

- a. The complete modernization of the "decametric wave" network for communications warranting the use of direct circuits via satellite.
- b. The start of service in April 1972 of the ground satellite telecommunciations station at Gandoul (capacity: 300 telephone channels; television equipment). The number of circuits has increased from 20 in 1972 to 70 now.
- The recent start of service on the Casablanca-Dakar-Abidjan undersea cable (total cost: 14 billion CFA /African Financial Community monetary unit/francs which should be amortized "in a few years." In 1976, Tele-Senegal made 280 million in profits.

BRIEFS

TV RETRANSMITTER IN KHABAROVSK KRAY--[V. Vodolazhskiy report: "News From Everywhere"] Troitskoye (Khabarovskiy Kray)--A new construction site has appeared on the outskirts of this rayon center, construction of a television retransmitter has begun here. It is being constructed by specialists of a mobile mechanized column of the "Khabarovsklesstroy" Trust. The inhabitants of Nanayskiy Rayon will already be able to watch television broadcasts on two channels this year. [Moscow IZVESTIYA in Russian 26 Jun 77 Morning Edition p 4 LD]

TASS-TAP COOPERATION PROTOCOL--Moscow, July 1 TASS--Mahmoud Triki, president and director-general of the Tunisian News Agency TAP, is currently in Moscow at the invitation of the Soviet News Agency TASS. While in the Soviet Union, the Tunisian guest had meetings in TASS, the editorial office of the news-paper PRAVDA and the Novosti Press Agency, and made sightseeing tours of Moscow and Leningrad. TASS and TAP signed a protocol on expansion of cooperation in the area of news exchanges. [Text] [Moscow TASS in English 0942 GMT 1 Jul 77 LD]

FRANCE

NATION'S TELECOMMUNICATIONS BURGEONING

Paris L'USINE NOUVELLE in French 2 Jun 77 p 44

/Article by Helene Pichenot7

<u>/Text/</u> Just a_year ago the PTT <u>/Postal</u> and Telecommunications Administration, after a good deal of wavering and uncertainty, completed the restructuring of the telephone switching industry. Now, 1 year later, what has happened? Norbert Segard, secretary of state for the PTT, explains:

"By the end of 1977, we will have reached the 10 millionth subscriber, and we are in a good position to achieve our 1982 goal, which is 19.3 million subscribers," he said, while recognizing that the demand for line installation is growing at a rate larger than forecasted. "Demand is 34 percent above the forecasts of the priority action plan."

However, the increase in telephone equipment is being done on all levels, including rural lines, which will increase from 60,000 in 1975 to 184,000 at the end of 1977, and public phone booths: over 41,000 will be in service by next December. As to industry, its structure has greatly changed. "Now, 84 percent of the telephone switching network is French," said Mr Segard. "Moreover, export agreements, such as with Telinter, a company set up between CGE /General Electric Company/ and Thomson, have been signed." On this subject, Mr Segard likes to mention his trip to Sweden, where an agreement very favorable to the French was negotiated between Thomson and LM-Ericsson concerning areas of influence for exports.

However, a slight divergence has arisen between the secretary of state, who feels that 1976 was an excellent year for exports (the

list of orders at the end of 1976 was up 17 percent over 1975), and people in industry who, during a recent meeting of the SITT /expansion unknown/, were somewhat more circumspect. "The general export situation," feels Marc Lauvergeon, the new head of the SITT organization, "has suffered from renewed aggression by foreigners. Consequently, the amount of orders received is lower than it was last year."

Norbert Segard, however, stresses the importance of the new markets, those in Libya, Egypt, or even Australia. Also, contrary to all the rumors which have been flying about, the new leaders of LMT / Telephone Equipment Company / "have apparently become reasonably optimistic," concerning the well-known Soviet order for the development of a plant with a capacity of 1 million Metaconta lines.

The PTT secretary of state is delighted about the impact that the 1976 meeting in France on electronic switching is having abroad. Many countries are basing their decision on the French selection; some even are going so far as to use France's specifications.

Program funding came to 18.4 billion in 1976, and 24.8 billion in 1977. For the 1978-1980 period, Norbert Segard states that funding will be in accordance with the 7th Plan forecasts (105 billion spread over 5 years, in constant francs).

Forecasts Have Been Revised Upward

The forecasts for orders of lines have been readjusted, especially for the space exchanges produced by LMT, Ericsson-France, and CGCT /Telephone Construction Company/: from 1976 to 1980, 2,900,000 lines of this type will be ordered, including 400,000 lines in 1977 (concerning Metaconta, 179,000 orders will go to LMT and 139,000 to the CGCT, the French subsidiary of ITT).

As to the EIO time-switching exchange, produced by $GGT_{\overline{/e}}$ xpansion unknown, 2,300,000 lines are planned between 1976 and 1980, including 315,000 in 1977.

According to the PTT secretary of state, the number of space lines is increasing not at the expense of the E10 lines, but rather at the expense of electromechanical lines. Norbert Segard indicates that these readjustments were made at the request of the industries involved, who prefer to move more quickly to electronic production, in order to avoid having to hire additional employees for electromechanical work, who would have to be laid off later. Of 100 electromechanical workers, only two-thirds

are needed in space switching, and only 50 percent for allelectronic switching. Marc Lauvergeon said: "Our industry has already made enough investments in buildings and plants. Our employees are not going to increase in the years to come." This may be why, among the potential job creators, the government wants to give a favorable place back to the PME / expansion unknown/. This is why Norbert Segard has just issued a real appeal to the PME: "The very large amount of money that we are spending and that we will continue to spend on research is also intended for you; you have ideas, we have needs and some means; contact us."

CLARE COMPANY CONSOLIDATING TELECOMMUNICATIONS POSITION

Paris ELECTRONIQUE ACTUALITES in French 27 May 77 p 13

[Article by Jean Paul Amary: "Clare Intends $_{
m To}$ Consolidate Its Position on the Telecommunications Market With Its French Plant Specializing in Reed Relays"]

[Text] Next September, the Clare Company (General Instrument group), specializing in manufacturing push buttons, keyboards and reed relays, is going to start its industrial activity in France (see ELECTRONIQUE ACTUALITES for 24 September 1976). Initially, 2,000 square meters of building space, leased from the Roubaix Woolen Mills (Masurel group), will handle this activity. The personnel, which at that time, will amount to 30 persons, will probably be increased to about 100 persons at the end of this year, according to Clare. Subsequently, the number of personnel might even go as high as 300 or 400 persons. The Clare Company will occupy the buildings of the Roubaix Woolen Mills for at least 2 years. Then, Clare is probably to take possession of a new 5,000-square-meter plant, whose construction is scheduled on a plot of land in the municipality of Proville, near Cambrai. Scheduled investments in telecommunications are primarily the basis for Clare's decision to set up a second plant in Europe and more especially in France.

Clare's entrance on the French market as a French manufacturer would, in fact, enable that company to consolidate its position in that field. Right now, telecommunications represent for Clare an appreciable part of its sales made in France. J. L. Riviere, manager of CP Clare Electronique, the French subsidiary of Clare, set sales at 60 percent of a turnover amounting to 45 million francs in 1976 (about 30 percent of Clare's sales in Europe).

The French market is not the only objective of the new plant. In fact, production will be intended for all Europe. For the first year of its operation, Clare expects that 50 percent of its production will be exported to the various countries of the European Community.

The production of the Cambrai plant, more especially adapted to the requirements of the French market, will not cover all the products in Clare's catalog. This production will supplement the products of the Belgian plant.

Thus, initially, the French plant is going to devote itself primarily to manufacturing dry reed relay capsules and shielded nonmolded mercury reed relays. Most of these relays meet PTT [Postal and Telecommunications Administration] specifications. Let us note, in this connection, that Clare is recorded on the PTT preferential lists and it is aiming as being recorded on the GAM [expansion unknown] military lists.

For the present, shielded nonmolded reed relays are manufactured in Belgium at the rate of 3 to 4 million a year. Sealed capsule mercury switch relays and molded reed relays will continue, moreover, to be produced in the Belgian plant.

Up to now, on the European level, the capsules required for making the relays were manufactured by the Belgian plant for mercury switches and reed relays, but were imported from the United States for dry reed relays. In the new European organization, Clare's Belgian plant is going to start manufacturing dry reed capsules in September 1977. Moreover, the American company has bought up, especially for this purpose, the machinery of the American Stromberg Carlson Company, which has abandoned the manufacture of reed capsules. Some of these machines will probably be allocated to the Belgian plant, which would represent, thus, 30 percent of the worldwide production capacity of dry reed relay capsules by the company (100 million a year).

Clare's French plant will not be limited to manufacturing reed relays. In fact, the establishment of a surge arrester production line is scheduled. These components, manufactured in the United States up to now, cover a complete range. A nonradioactive model, used at the subscriber's line head, has already been approved by the PTT, it should be noted. It should be noted, in this connection, that surge arresters represent one-fourth of the sales made by Clare in France.

With regard to telecommunications, Clare products are already used or scheduled to be used in a number of items of equipment. Thus, its relays are in the Metaconta and AXE-type space electronic exchanges and the type E10 time exchanges. The company does not yet have models for crossing points of Metaconta exchanges for export and AXE, but the company is developing, at present, a pressurized reed microrelay capsule for this purpose that will make it possible to hold 600 volts between contacts. Clare also furnishes relays for Pentaconta and CP 400 type electromechanical exchanges for peripheral applications of the subscriber junction and converter type. Clare is also present in other items of equipment for telecommunications. By way of example, the following are to be noted among these items: OFE, MIC 1 and 2 transmitting equipment, microwave relay communications, public telephones, keyboard stations and line concentrators.

Although telecommunications are Clare's main activity in France, peripheral dara processing with alphanumeric keyboards are not to be overlooked, since Clare sells around 15,000 keyboards a year in France, or close to a third of the production of the Belgian plant.

Clare expects to develop a number of new products, both for telecommunications and for data processing. Thus, in the field of push buttons, the company is studying a low-profile reed relay push button, whose price should prove to be very competitive in comparison with traditional electromechanical push buttons, taking industrialization into account. In addition, 2 years from now, the company expects to put out a capacitive keyboard — for mass production applications — that will probably be very competitive (around 30-percent profit) in comparison with traditional technologies. Finally, in the field of push buttons, it should be noted that luminous push buttons with one or two switches and a small lamp, recently proposed by the company for local exchange switching, have a very competitive price (less than 20 francs).

In the relay sector — representing around 60 percent of the turnover of Clare France — the company is also developing new products. Thus, at the end of 1977, the company will probably be in a position to supply shielded reed relays with alternate outlets, in the dry or mercury version interchangeable with each other. These relays, developed in Belgium, might be manufactured in France subsequently. The company is also developing a mercury reed relay capsule without preferential positioning. Clare expects to manufacture this product within 2 years, in order to set competitive prices with regard to the traditional mercury reed relays. Moreover, Clare is studying a mercury switch that would make it possible to manufacture 2, 4 and 6 RT contact relays competitive with traditional electromechanical relays. The company also expects to put out a triac-controlled mercury reed microrelay.

It should be pointed out, finally, that Clare has already developed a one to six contact bistable reed relay -- manufactured at present in the United States -- that might soon be manufactured in Europe, and also a mercury reed relay controllable directly by C/MOS.

10,042 CSO: 5500

STANDS TAKEN ON SATELLITE TV

Prime Ministers Position

Oslo AFTENPOSTEN in Norwegian 23 May 77 p 3

[Text] Prime Minister Odvar Nordli in a holiday speech at Lillehammer took a strong position against those who want to put limitations on satellite transmissions of TV programs from abroad.

"I cannot see how we in a free society can establish limitations in this area," said the prime minister at the joint meeting of the Norwegian Publishers Society and the Norwegian Booksellers Society. Nordli emphasized that he considered it difficult to take any other position in this manner than that which now applies to foreign radio programs which we receive.

"I do not believe we can confine the people's reception to NRK programs when the technology can bring us a number of others," determined the prime minister.

Nordli explained, moreover, that the government does not intend to interfere with and impose on the Norwegian publishing activity, even if doing so should enhance public participation in the use of textbooks which have a small market. The prime minister made it quite clear that he is not an advocate of public interference in these areas.

"We have tried to adhere to the positive values of our cultural policies. We must also be willing to endure the inconveniences which this position of freedom must create for those who at present are on the defensive regarding TV," asserted Nordli.

"I do not know whether it is any advantage in the broadest sense to be able to spend much of one's time on not only Norwegian programs, but also on a whole series of other programs. But I cannot say how we in our free culture shall be able to establish limitations in this area. Moreover, it has not been considered any cultural threat that parts of Ostland and Sorland have been subjected to indoctrination by Swedish and Danish TV programs, and that viewers in Ost-Finnmark have even been indoctrinated with Soviet TV," said Nordli.

"New media have often acted as a threat to the older media. When the phonograph came, those who represented live music feared for their future. Then when radio came, the phonograph people felt threatened. When TV came, the radio people felt threatened. The newspapers felt threatened by radio, and TV caused both radio and newspapers to feel threatened," continued the prime minister.

Nordli pointed out that we today know that there is no necessity for pessimistic fears when new values emerge. Radio music often stimulates the sale of records. Mechanical music in the form of radio, records or tapes has made music a valuable personal experience for many more people than could have been reached by live music. Live music still represents a much smaller portion of the total musical experience than before, but all music now reaches a much larger audience than it once did," said Nordli.

The prime minister emphasized the demands that this situation places on those engaged in the other media.

"Those responsible for our book market have a clear requirement to publish the best in their professional and financial activity to fulfill their function as cultural leaders," said Nordli, who maintained that the Norwegian publishing activity today satisfies the demand for the freedom of thought and expression.

NRK Director's Position

Oslo AFTENPOSTEN in Norwegian 2 Jun 77 p 2

[Article by Broadcasting Chief Torolf Elster: "Satellite Broadcasting"]

[Text] While I was abroad—at an international meeting on satellite broadcast-ing—the Norwegian press carried a lot of items on NRK's position on this very question. Some writers mentioned the "guardian position" on broadcasting.

Let me make it clear that NRK has expressed no opinion on satellite broadcasting and has taken no position in this matter, which in reality is many different matters. We expect that when the time comes we shall be asked to give our points of view on the questions on which we can reasonably be expected to have an opinion. At that time we shall thoroughly evaluate those questions.

The only thing that I have stated in several short telephone conversations is that, in disucssions around the world, it has been pointed out—by media investigators, politicians, and others—that there are a great many problems involved. There is talk of economic and legal problems, of foreign policy and cultural policy problems. It will be a matter for politicians to take a stand on.

It is important that we know clearly what the matter involves. Direct broadcasting by satellite involves—with one exception—the dissemination of the

broadcasting country's own radio and TV programs to one's own area. In other words it is merely a matter of a new method of sending programs to the same public that now receives them. Generally in most countries there is presently no great interest in, and no need for, such broadcasts. Norway, however, has a special position among the countries of Europe. If we want the TV Program II we must receive it via satellite. Thus it will be a question of deciding whether we have the resources and need for it.

That is, as mentioned above, the one exception to the principle that the satellite shall merely transmit the national programs within the nation. By participating in the International Teleunion, Norway has received access to satellite broadcasts which will be able to cover all of Scandinavia. The idea is that this will give the people of Scandinavia a chance, through a "common Scandinavian TV-market," to learn to know one another better. The manner in which this is to be done must now be considered with great care. The result must indeed not be that the Scandinavian people will get to view fewer programs of their neighbor countries than they now view through the Scandinavian program exchange.

It was NRK that made the first concrete proposal to use satellites to send the Scandinavian TV program to the neighboring countries. What is now urgent is that we in our own country take the time for a broad and thorough discussion of how this can best be done. There will be talk of quite considerable investments, and we have many unsolved cultural problems.

Quite certainly, broadcasting via satellite will come. But there is little reason to expect it before 1985. In the fall of 1980 a European satellite will be launched for test transmissions. It will be up to the government to decide what place NRK will have in these developments, which, with the years, quite easily will be capable of creating an entirely new broadcasting situation.

8761

TURKEY

BRIEFS

EARTH SATELLITE STATION--Ankara--HURRIYET--Bulent Erandac reports--It has been announced that the first Turkish earth satellite station, which will free Turkey from Greece's and Bulgaria's interference with its communication with Europe and America and will make Turkey independent in the telecommunications field, is under construction near Ankara. The satellite station will be operational toward the middle of 1978. [Excerpt] [Istanbul HURRIYET in Turkish 4 Jul 77 p 3 NC]

CSO: 5500 END